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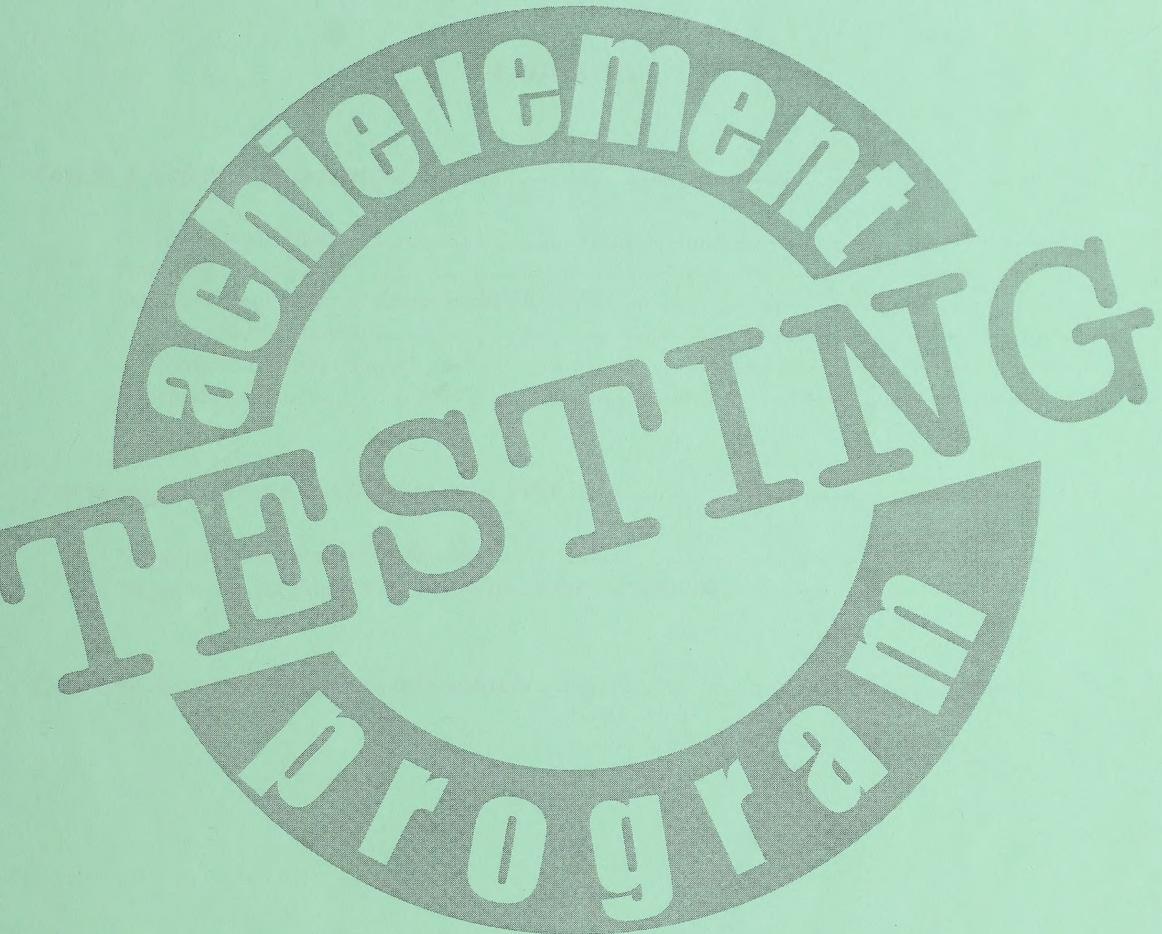


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Information Bulletin

• Grade 6 Science •

2000 – 2001 School Year

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Grade 6 Science Assessment

General Description

The Grade 6 Science Achievement Test consists of 50 multiple-choice questions. The questions are placed in real-life contexts. Frequently, a number of questions may be clustered around a common context.

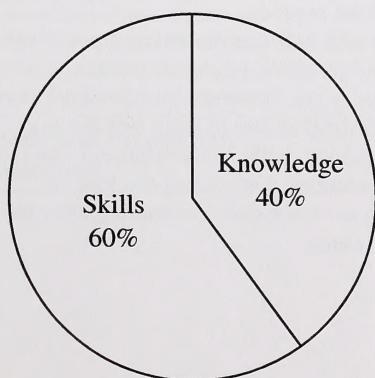
The test is developed to be completed in 60 minutes; however, students may take an additional 30 minutes to complete the test.

Students require HB pencils, erasers, and scrap paper. Calculators are not required for successful completion of the assessment but are permitted. Students record their answers on a separate answer sheet.

Reporting Categories

The assessment is limited to those areas of learning that may be efficiently assessed using paper and pencil.

Knowledge and skill components are integrated in the assessment. Knowledge components relate to fundamental understanding of the concepts and the processes of science. Skill components relate to the application of science processes and the use of higher-level thinking to solve problems. The following circle graph shows the approximate emphasis for the reporting categories of knowledge and skills.



Questions will have contexts drawn from the following topics.

Air and Aerodynamics
Flight
Sky Science
Evidence and Investigations
Trees and Forest

The students' ability to use inquiry problem-solving skills will be assessed throughout these topics.

To assist students in understanding the possible contexts and specific science terms that may be used in the test, teachers should ensure that students are familiar with the meaning of the following words and phrases.

departure	analyze
terminal	nozzle
vertical	manipulated variable
horizontal	responding variable
descending	independent variable
helicopter	dependent variable
cylinder	cross section
compressed	photosynthesis
bevelled	chlorophyll
rafters	hectares
propelled	silhouette
crosswind	cluster
inflate	drooping
deflate	annual
air foil	perennial
planetarium	self-supporting
sundial	decompose
constellations	scavenger
asteroid	dichotomous
counterclockwise	naturalist
emit	clear cut
satellite	deciduous
meteorite	coniferous
dumpster	drought
variable	interpretive centre
forensic	erosion
intruder	hibernate
accomplice	canopy
infer	precipitation
suspects	

Description of Science Assessment Standards

The following statements describe what is expected of Grade 6 students who are meeting the *acceptable standard* or the *standard of excellence*, based on outcomes in the *Program of Studies*. These statements represent the standards against which student achievement is measured. It is important to remember that one test cannot measure all of the outcomes in the *Program of Studies*.

Acceptable Standard	Standard of Excellence
<p>Students who meet the <i>acceptable standard</i> in Grade 6 Science can design and carry out an investigation in which variables are identified and controlled, and which provide a fair test of the question being investigated. They recognize the importance of accuracy in observation and measurement, and apply suitable methods to record, compile, interpret, and evaluate observations and measurements. They can also design and carry out an investigation of a practical problem involving the construction or modification of a device that moves through air, and they can develop a possible solution.</p>	<p>Students who meet the <i>standard of excellence</i> in Grade 6 Science can design, carry out, and evaluate an investigation in which variables are identified and controlled. The students can also readily identify new questions to be explored. These students can accurately make observations and measurements, and can apply novel methods to record, compile, interpret, and evaluate observations and measurements. They can also design, carry out, and evaluate an investigation of a practical problem involving the construction or modification of a device that moves through air, and they can develop a workable solution.</p>
<p>Students who meet the <i>acceptable standard</i> can describe the properties of air and the interactions of air with objects in flight. They can construct devices that move through air and can identify adaptations for controlling flight. These students can observe, describe, and interpret the movement of objects in the sky, and identify pattern and order in these movements. They can identify materials and apply knowledge of the properties and interactions of those materials to an investigation. They can also describe characteristics of trees and the interaction of trees with other living things in the local environment.</p>	<p>Students who meet the <i>standard of excellence</i> can describe in detail the properties of air and the interactions of air with objects in flight. They can construct aerodynamic devices that move through air, and can identify and make adaptations for controlling flight. These students can observe the movement of objects in the sky, make detailed descriptions and accurate interpretations about these movements, and identify specific patterns of them. They can apply knowledge of the properties and interaction of materials to the investigation and identification of a material sample with precision. They can provide clear descriptions of the characteristics of trees and the interaction of trees with other living things in the local environment.</p>
<p>Students who meet the <i>acceptable standard</i> demonstrate positive and responsible attitudes toward the study and application of science.</p>	<p>Students who meet the <i>standard of excellence</i> demonstrate positive attitudes for the study of science and for the application of science in responsible ways. They demonstrate confidence in their personal ability to learn and develop problem-solving skills, perseverance in the search for understanding, and critical-thinking in examining evidence and determining what the evidence means.</p>

Blueprint

The blueprint for science shows the reporting categories under which questions are classified. The number of questions in each category is approximate.

General Learner Expectations	Question Distribution by Reporting Category		Number and Proportion of Questions
Students are expected to:	Knowledge	Skills	
Work cooperatively with others to design and carry out an investigation in which variables are identified and controlled; recognize the importance of accuracy in observation and measurement, and apply suitable methods to record, compile, interpret, and evaluate the observations and measurements gathered by self and group; work cooperatively with others in designing and carrying out an investigation of a practical problem and in developing a possible solution	2	12	14 (28%)
Describe properties of air and the interactions of air with objects in flight; construct devices that move through air; identify adaptations for controlling flight	9	5	14 (28%)
Observe, describe, and interpret the movement of objects in the sky; identify pattern and order in these movements	4	3	7 (14%)
Apply observation and inference skills to recognize and interpret patterns and to distinguish a specific pattern from among a group of similar patterns; apply a knowledge of the properties and interactions of materials to the investigation and identification of a material sample		6	6 (12%)
Describe characteristics of trees and the interaction of trees with other living things in the local environment	5	4	9 (18%)
Number and Proportion of Questions	20 (40%)	30 (60%)	50 (100%)

Preparing Students for the Science Test

Suggestions for Preparing Students

The best way to prepare students for writing the achievement tests is to teach the curriculum well and to ensure that children know what is expected. Many of the skills and attitudes that support test writing are, in fact, good skills and strategies for approaching all kinds of learning tasks.

Teachers are encouraged to familiarize their students with the types of questions that will appear on the test by discussing questions from achievement tests that are no longer secured. Then, have students share the strategies they used to answer the questions.

Teachers may also wish to share the following information with their students to help them prepare for the Grade 6 Science Achievement Test.

Suggestions for Answering Multiple-Choice Questions

- Before you begin, find out:
 - how much time you have
 - if you can use a calculator
- Ask questions if you are unsure of anything.
- Skim through the whole test before beginning. Find out how many questions there are and plan your time accordingly.
- Answer the easier questions first, then go back to the harder ones.
- Do not spend too much time on any one question. Make a mark (* or ?) beside questions that you wish to go back to.

- Read each question carefully, underline key words, and try to think of an answer before looking at the choices.
- Read all of the choices and see which one best fits the answer.
- When you are not sure which answer is correct, cross out any choices that are wrong, then pick the choice that is best.
- If you don't know the right answer, guess. Answer all questions—there is no penalty for guessing.
- If time permits, recheck your answers.
- Double check to make sure you have answered everything before handing in the test.
- Note that the questions on the science test are placed in real-life contexts and organized in narrative themes.
- Read the information given using the strategy that works best for you. You should either
 - look at all the information and think carefully about it before you try to answer the questions **OR**
 - read the questions first and then look at the information, keeping in mind the questions you need to answer
- Make sure you look at all forms of the information given. Information may be given in words, charts, pictures, graphs, or maps.
- When information is given for more than one question, go back to the information before answering each question.
- Check your work when you calculate an answer, even when your answer is one of the choices.

For further suggestions, see *Teaching Students with Learning Disabilities*, Alberta Learning, Special Programs Branch, pages LD 122 to 124.

ALL of the 2000 achievement tests are secured. The 1998 and the 1999 achievement tests are no longer secured and are posted on the Alberta Learning web site <http://ednet.edc.gov.ab.ca>.

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